REMARKS

Claims 1-3 are pending. By this Amendment, claim 1 is amended.

The Office Action rejects claims 1-3 under 35 U.S.C. § 103 over Tsuji (U.S. Patent 4,087,050) in view of Wiegand (U.S. Patent 4,566,634) and Ohsuga (U.S. Patent 5,850,816). The rejection is respectfully traversed.

Claim 1 recites that the nozzle body tip portion is formed with a nozzle hole to inject a fuel directly to the combustion chamber and formed in a protruded shape without forming a corner portion or a recessed portion on the surface thereof. As admitted in the Office Action, Tsuji does not disclose the nozzle body tip portion formed in a protruded shape without forming a corner portion or a recess portion on the surface thereof. Further, Tsuji does not disclose the direct injection in which fuels are injected directly into a combustion chamber. Therefore, Tsuji does not disclose the nozzle hole to inject the fuel directly to the combustion chamber.

Wiegand does not solve the deficiencies of Tsuji. In particular, Wiegand does not disclose a nozzle body tip formed with a nozzle hole to inject the fuel directly into the combustion chamber. In particular, Wiegand has a nozzle body 10 and a discharge nozzle 11 (see column 2, lines 55-57 and Figures 1 and 2). Wiegand also has the ejector attachment 17 which has a protruded shape without forming a corner portion of a recess portion on the surface. If the Examiner believes that the nozzle body 10 is equivalent to the claimed nozzle body tip portion, the nozzle body 10 of Wiegand is not formed in the shape without a corner portion and recess portion. If the Examiner believes that the ejector attachment 17 is equivalent to the claimed nozzle body tip portion, the ejector attachment 17 does not inject the fuel directly into the combustion chamber. According to Wiegand, the injection leaves from the discharge nozzle 11 and the injection jet draws in highly compressed air from the air ducts 22. Because of the

suction affect of the injection jet, the drawn in air is accelerated and is conveyed at a high speed together with the fuel through the mixing nozzle 23 and the diffuser 24 into the fuel chamber 21. See column 3, lines 9-29. Thus, neither the valve body 10 nor the ejector attachment 17 injects the fuel directly into the combustion chamber. Thus, Wiegand does not disclose the nozzle hole to inject the fuel directly into the combustion chamber, as recited in claim 1.

Further, Ohsuga discloses only a variation of the intake air port and amount of the injected fuel. Ohsuga does not disclose a structure and injection valve. The claimed invention recites the structure of the injection valve, namely the nozzle body tip portion, wherein the nozzle body tip portion is formed with a nozzle hole to inject the fuel directly into the combustion chamber and formed in a protruded shape without forming a corner portion or a recess portion on the surface thereof.

Since none of these references cite this feature, any combination of the references cannot render obvious claim 1, or dependent claims 2 and 3 of the present application. The recited structure of the injection valve for directly injecting the fuel into the combustion chamber is not disclosed in any of the cited references. Accordingly, Applicants request withdrawal of the rejection.

The cited references do not disclose nor indicate the constitution or structure of the claimed invention. Therefore, one of skill in the art would not have a motivation to combine the references together.

The Office is authorized to charge any additional fees or credit any overpayments under 37 C.F.R. §§ 1.16 or 1.17 to Deposit Account No. 11-0600.

Should there be any questions concerning this matter, the Examiner is invited to contact Applicants undersigned attorney.

Respectfully submitted,

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